

CLAIMS:

1. A transport mechanism for an electronic device test-handler grips and carries a device under test (DUT) in a first direction from a pick-up point to a test site where the DUT is driven into electrical connection with a test circuit via leads on the DUT that each align with and contact an associated connector at the test site, comprising:
 - a drive that reciprocates between a retracted and an extended position,
 - a vacuum suction source, and
 - an elongated probe extending generally in said first direction from one end operatively connected to said drive to a tip and moving with said drive between said retracted position and said extended position, said probe operatively connecting said vacuum source to said tip that is proximate the DUT at the pick-up point such that the DUT at said pick-up point is gripped by said vacuum suction in a fixed position with respect to said probe during the operation of said drive and probe to carry the DUT along said first direction to the test site and into electrical connection with the connectors.
2. The plunge transport mechanism of claim 1 wherein said drive includes a linear slide that support and maintain an alignment of the probe with the test site during the reciprocating movement.
3. The plunge transport mechanism of claim 1 wherein said probe is formed of a rigid structural material and with dimensions such that it resists deflection while gripping the DUT and through its contact with and connection to connections of the test circuit.

4. The plunge transport mechanism of claim 3 wherein said probe has a central passage along its length to connect said vacuum source to the DUT.
5. The plunge transport mechanism of claim 4 wherein said probe is formed of stainless steel and has said tip formed of an insulating, static dissipative material.
6. The plunge transport mechanism of claim 5 wherein said probe, when viewed along said first direction, lies within the footprint of the DUT.
- 10 7. The plunge transport mechanism of claim 1 wherein said probe has a length-to-diameter ratio of in the range of about 10:1 to 32:1.
8. The plunge transport mechanism of claims 1 to 6 wherein said probe and test site have no alignment members that produce or maintain the alignment of the DUT with respect to said connections at the test site.
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9. A method for transporting an electronic device under test (DUT) at a test site into and out of electrical connection with a fixed set of connectors of a test circuit, said transporting being in a reciprocating, plunging movement along a first direction, comprising:

5 providing an elongated probe extending generally in the first direction to a free end,

gripping the DUT at said free end with a vacuum with sufficient force that the DUT remains in a substantially fixed position with respect to said probe during said transporting and connection,

10 driving said probe and the vacuum gripped DUT in the first direction into the electrical connection with test circuit at the test site, and

resisting a lateral deformation of the probe due to the weight of the DUT thus gripped or force developed by contact between the DUT and the connectors of the test circuit.